

AUDIT FORM

for use with
Guideline For Use at
Contaminated Sites in
Ontario

Version 2.0
January 1999



**Ministry of
Environment**

AUDIT FORM

SITE INFORMATION

Site Owner:

Name of Site Owner

Address for Correspondence

Telephone and Fax Numbers

Site:

Municipal Address

Legal Description of Site

Plot Plan Number or Assessment Roll Number, etc.

AUDIT INFORMATION

Name of Auditor(s)

Completion Date of Audit

Audit Result (pass/fail)

Stage 1 - CRITERIA SELECTION:

In this stage of the audit, the reports will be screened in order to verify that the specific restoration approach selected was applied in accordance with the requirements of the "Guideline For Use at Contaminated Sites in Ontario", June 1996, and revised February 1997, referred to as the Guideline.

If the reports do not contain enough information to answer the following questions or the answer is "no" to any of the questions, then the site fails the audit. Further review for audit purposes is not required because the criteria were not selected in accordance with the Guideline and therefore, may not be appropriate to the site.

| 1.1 | CRITERIA SELECTION - Background Approach | YES | NO |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 1.1.1 | The report shows the intended or current land use designation as rural (agricultural land use) or urban (all other land uses). | | |
| 1.1.2 | Where the proponent selected the background approach, and the required background criteria are not provided in Table F, or are not appropriate for use at the site, the proponent has developed the required background criteria in accordance with Section 5.1 of the Guideline. | | |

| 1.2 CRITERIA SELECTION - Generic Approach | YES | NO |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| <p>1.2.1 The report makes a correct determination based on Section 6.1 of the Guideline that this is not a potentially sensitive site, or</p> <p>if the site is identified as potentially sensitive because of condition 6.1(i), (ii), or (iii) then appropriate criteria were developed or selected using the process detailed in Section 6.1 of the Guideline.</p> | | |
| <p>1.2.2 The report shows the intended or current land use designation as agricultural, residential/parkland or industrial/commercial.</p> | | |
| <p>1.2.3 The report determines whether potable or non-potable groundwater criteria are applicable.</p> | | |
| <p>1.2.4 If non-potable criteria are selected then the report:</p> <ul style="list-style-type: none"> i) indicates correctly that the site is served by a communal or municipal drinking water supply which does not rely on the local groundwater; ii) shows that any present or future surface water or groundwater sources of drinking water that may be influenced by this site will not be adversely affected, including water for agricultural and aquaculture uses, and iii) contains a copy of the letter notifying the municipality of the use of non-potable criteria at the site. | | |
| <p>1.2.5 The report makes a correct determination of the soil size, or coarse textured soil criteria are used.</p> | | |
| <p>1.2.6 The report makes a correct determination of the soil criteria utilized as outlined in Figure 6a of the Guideline.</p> | | |
| <p>1.2.7 Where generic criteria are not provided in the Guideline for a parameter of concern at the site, the proponent has developed individual generic criteria or adopted criteria from another jurisdiction as outlined in Section 6.7 of the Guideline, and the details of the process used have been reviewed by Standards Development Branch (SDB) of the Ministry of the Environment.</p> | | |

| 1.3 CRITERIA SELECTION - Site Specific Risk Assessment | YES | NO |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 1.3.1 The proponent has consulted with the municipality, and the municipality's comments on the use of this approach at the site in question are attached [this is not required for a Site Specific Risk Assessment (SSRA) or an Ecological Risk Assessment (ERA) undertaken in accordance with Section 6.1 of the Guideline (Sensitive Sites)]. | | |
| 1.3.2 Documentation is provided confirming that the SSRA document(s) were submitted to SDB for their review and concurrence. | | |

Stage 2 - SITE ASSESSMENT PROCESS:

After determining that the restoration approach was selected properly, the auditor will move on to Stage 2. In this part of the audit, the reports will be screened in order to verify that steps 1 and 2 of the Guideline (Figure 8a) were completed so that all potential sources of contamination were identified and the extent of any contamination present both on- or off-site has been fully delineated. If the reports do not contain enough information to answer the following questions or the answer is "no" to any of the questions, the site fails the audit. Further review of the reports for audit purposes are not required because all potential sources may not have been identified or the extent of contamination determined and the conclusions of the report(s) may therefore, be invalid.

If the site passes this stage of the audit, but in reviewing the report(s) the auditor finds the assessments in the report do not lead to the conclusions provided in the report, the audit may proceed to Stage 5 - MINISTRY AUDIT SAMPLING.

| 2. | SITE ASSESSMENT | YES | NO |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 2.1 | As outlined in Figure 8b of the Guideline, a conclusion has been made and documented that determines the need for further site investigation and sampling. The report identified all possible sources of contamination. | | |
| 2.2 | As outlined in Figure 8c of the Guideline, sampling has been conducted to confirm and characterize the presence, type and extent of contamination in all applicable media. For each possible source of contamination, the report provides sampling results to show that: i) the presence or absence of contamination was determined, and ii) the extent of contamination was delineated, and compared to the appropriate Guideline criteria based on the restoration approach selected in Stage 1. | | |
| 2.3 | If the report concluded that contamination caused or was likely to cause an adverse effect as per Section 15 of the EPA, the ministry was notified when the contamination was detected. | | |

Stage 3 - SAMPLING AND ANALYTICAL METHODOLOGIES

After determining that the site was properly assessed, the auditor will move on to Stage 3. In this stage of the audit, the reports will be screened in order to verify that the sampling and analysis conducted in steps 1 through 3 of the site assessment process were completed in accordance with the requirements of the accompanying document "Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario", July 1996, and revised December 1996, referred to as the Sampling Guidance Document. If the reports do not contain enough information to answer the questions in Section 3.1 or the answer is "no" to any of the questions, the site fails the audit.

Further review of the methodologies conducted by the lab will be undertaken by ministry lab staff on a percentage of sites being audited under this process. If the site is randomly selected at this stage of the audit, lab staff will further audit the lab that preformed the work as outlined in Section 3.2 Lab Audit and Data Evaluation. If the information provided by the lab does not contain enough information to answer the questions in Section 3.2 or the answer is "no" to any of the questions, the site fails the audit.

If the site fails in either section then further review of the reports for audit purposes are not required because the analysis was not conducted in accordance with the Guideline and therefore, may not be representative of conditions on the site.

| 3.1 | SAMPLING AND ANALYTICAL METHODOLOGIES | YES | NO |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 3.1.1 | Composite soil samples only incorporated soil from the same local area and soil strata as required in Section 5.1 of the Sampling Guidance Document. | | |
| 3.1.2 | For sites where surface soil is expected to remain on site and there is a potential for contamination at ground surface, the 0-5 cm (zero to five centimetre) depth was sampled separately from materials at greater depth as required in Section 5.1 of the Sampling Guidance Document. | | |
| 3.1.3 | Composite soil samples were submitted to the laboratory only for inorganic and non-volatile organic compound analysis. Discrete soil samples were submitted for volatile organic compound (VOC) analysis, as required in Section 5.1 of the Sampling Guidance Document. | | |
| 3.1.4 | Soil sample results were reported on a dry weight basis as required by Section 8.3 of the Sampling Guidance Document. | | |
| 3.1.5 | Replicate sampling for all media sampled were conducted and reported as required in Table 7.1A of the Sampling Guidance Document. | | |

| 3.1 | SAMPLING AND ANALYTICAL METHODOLOGIES | YES | NO |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 3.1.6 | Method Detection Limits (MDLs) for all media were reported for target analytes and meet the appropriate MDLs listed in Sections 8.3 to 8.5 or the MDLs are 1/10 of the appropriate numeric criteria or the MDLs are inconsequential and well explained, as required in Section 8.1 of the Sampling Guidance Document. | | |
| 3.1.7 | Results of all Quality Control samples are reported. | | |
| 3.1.8 | All analytical data are reported without correction except as noted in Section 8.1 of the Sampling Guidance Document. | | |
| 3.1.9 | Surface water samples, if taken, were collected in accordance with Section 5.3 of the Sampling Guidance Document. | | |

| 3.2 | LAB AUDIT AND DATA EVALUATION | YES | NO |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 3.2.1 | Soil and sediment samples were stored in accordance with Section 5.1.4 of the Sampling Guidance Document. | | |
| 3.2.2 | Soil samples were prepared prior to analysis as required by Section 5.1.6 of the Sampling Guidance Document. | | |
| 3.2.3 | Groundwater and surface water samples were stored in accordance with Table 5.2D of the Sampling Guidance Document. | | |
| 3.2.4 | All samples were analysed using methods outlined in Sections 8.3 and 8.4 of the Sampling Guidance Document or alternate equivalent methods. | | |
| 3.2.5 | Surrogates for organic analysis were added prior to extraction and analysed using appropriate protocols in accordance with Section 8.1 of the Sampling Guidance Document. | | |
| 3.2.6 | Quality Assurance and Quality Control protocols were developed and followed in accordance with Section 8.1 of the Sampling Guidance Document. | | |
| 3.2.7 | Results of all applicable Quality Control samples are within the statistically determined control limits as required in Section 8.1 of the Sampling Guidance Document, or the analyst responded to any Quality Control results which exceeded control limits. | | |

Stage 4 - FINAL SITE CONDITIONS:

After determining that the sampling and analytical methodologies were conducted properly, the auditor will move on to Stage 4. In this stage of the audit, the reports will be screened in order to verify that the final site condition meets the requirements of the restoration approach selected. If the reports do not contain enough information to answer the following questions or the answer is "no" to any of the questions, the site fails the audit.

If in the auditors opinion the verification sampling that has been conducted is insufficient or focussed on areas that do not indicate the maximum contamination at the site then the audit may proceed to Stage 5 - MINISTRY AUDIT SAMPLING.

| 4.1 | FINAL SITE CONDITIONS - Full Depth Restoration | YES | NO |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 4.1.1 | The report provides confirmatory sampling results to show that: i) the soil quality at the site has been restored to the appropriate criteria presented in Tables A, B or F to the full depth of the contamination found at the site, or ii) the site meets the requirements for soil criteria listed in Table 8a of the Guideline "Comparison of Analysis to Generic Criteria". | | |
| 4.1.2 | For restorations involving leaking underground storage tanks containing gasoline or diesel products, the confirmatory sampling conducted followed the requirements of Table 4.1A of the Sampling Guidance Document. | | |
| 4.1.3 | When appropriate, the report provides confirmatory sampling results to show that: i) groundwater quality at the site is restored to the appropriate criteria presented in Tables A or B, or ii) the site meets the requirements for groundwater criteria listed in Table 8a of the Guideline "Comparison of Analysis to Generic Criteria". | | |

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|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 4.1 | FINAL SITE CONDITIONS - Full Depth Restoration | YES | NO |
| 4.1.4 | <p>When appropriate, the report provides confirmatory sampling results to show that:</p> <ul style="list-style-type: none"> i) sediment quality at the site is restored to the appropriate criteria presented in Table E, or ii) the site meets the requirements for sediment criteria listed in Table 8a of the Guideline "Comparison of Analysis to Generic Criteria". | | |

| | | | |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 4.2 | FINAL SITE CONDITIONS - Stratified Site Restoration | YES | NO |
| 4.2.1 | <p>The report provides confirmatory sampling results to show that:</p> <ul style="list-style-type: none"> i) the soil quality at the site is restored to or meets the appropriate criteria presented in Tables A or B for all soils within 1.5 m of surface; and ii) the soil quality at the site is restored to or meets the appropriate criteria presented in Tables C or D for all soils 1.5 m below grade to the full depth of the contamination found at the site, or iii) if either i or ii are not met then the site meets the requirements for soil criteria listed in Table 8a of the Guideline "Comparison of Analysis to Generic Criteria". | | |
| 4.2.2 | For restorations involving leaking underground storage tanks containing gasoline or diesel products, the confirmatory sampling was conducted following the requirements of Table 4.1A of the Sampling Guidance Document. | | |
| 4.2.3 | <p>When appropriate, the report provides confirmatory sampling results to show that:</p> <ul style="list-style-type: none"> i) the groundwater quality at the site is restored to the appropriate criteria presented in Tables A or B, or ii) the site meets the requirements for groundwater criteria listed Table 8a of the Guideline "Comparison of Analysis to Generic Criteria". | | |

| | | | |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 4.2 | FINAL SITE CONDITIONS - Stratified Site Restoration | YES | NO |
| 4.2.4 | <p>When appropriate, the report provides confirmatory sampling results to show that:</p> <p>i) sediment quality at the site is restored to the appropriate criteria presented in Table E, or</p> <p>ii) the site meets the requirements for sediment criteria listed in Table 8a of the Guideline "Comparison of Analysis to Generic Criteria".</p> | | |
| 4.2.5 | The Certificate of Prohibition has been registered on title by the proponent. | | |

| 4.3 | FINAL SITE CONDITIONS - Level 1 Risk Management | YES | NO |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 4.3.1 | The report provides confirmatory sampling results for the soil, groundwater, surface water and sediment quality to show that the site is restored to the criteria agreed to by SDB in the SSRA document(s). | | |
| 4.3.2 | All outstanding issues identified in SDB's review of the SSRA document(s) have been addressed. | | |

| 4.4 | FINAL SITE CONDITIONS - Level 2 Risk Management | YES | NO |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 4.4.1 | The report provides confirmatory sampling results for the soil, groundwater, surface water and sediment quality to show that the site is restored to the criteria agreed to by SDB in the SSRA document(s). | | |
| 4.4.2 | The report shows that the risk management measures described in the approved SSRA document(s) are implemented and a formal agreement is in place to ensure that they will be maintained, in the long term, by an identified responsible party. | | |
| 4.4.3 | All outstanding issues identified in SDB's review of the SSRA document(s) have been addressed. | | |
| 4.4.4 | The Certificate of Prohibition has been registered on title by the proponent. | | |

Stage 5 - MINISTRY AUDIT SAMPLING (if required):

After determining that the report supports the final site conditions listed on the Record of Site Condition (RSC) and that confirmatory sampling was conducted, the auditor may determine additional audit sampling conducted by the ministry is required at or in the vicinity of the site.

Audit sampling may be undertaken in any of the following cases:

- the site passes Stages 1 to 4 of the audit but in the auditor's judgment there is a reason to believe that contamination is still present at levels exceeding the appropriately selected criteria;
- the report indicates that contamination on the property may have migrated off-site on to an adjacent property; or
- as a random check.

The auditor will arrange to have the suspected location(s) sampled and submit samples to be analysed for the appropriate parameters. If the results indicate that contamination on the site is greater than the appropriate criteria selected in Stage 1 of the audit, the site fails the audit.

The auditor may have a reason to believe that contamination is present on the property based on one of the following reasons:

- the sampling frequency, depth, location or methods performed on the site by the consultant;
- previous knowledge of site conditions;
- past audit performance;
- the general quality of the report(s); or
- adjacent affected parties.

| 5.1 | MINISTRY AUDIT SAMPLING (if required) | YES | NO |
|-----|---------------------------------------------------------------------------------------------------|-----|----|
| 5.1 | All sampled parameters are below the criteria in the appropriately selected restoration approach. | | |